



PHYSICAL REQUIREMENTS FOR COARSE AGGREGATE FOR BITUMINOUS CONCRETE

Lab ID : CP-RW-2017-11-20-02 Date: 23-11-2017
Customer : Assistant Executive Engineer, Yelahanka New Town Sub Division, BBMP, Bangalore
Address : Yelahanka New Town Sub Division, BBMP, Bangalore
Project Name : Improvements and Asphaltting of Roads and Drains at Thirumalanagara ABCD Blocked in ward No.03
Agency : Technical Manager (west), KRIDL, BBMP, Bangalore.
Customer Reference : BBMP/EE(YNK.D)/W.O/116/2017-18
Source of Sample : Sample supplied by Agency
Sample Condition : Satisfactory
Date of Receipt : 20-11-2017
Sample ID No : 2017-11-20-02-01
Type of Mix : BC (Bituminous Concrete)
Date of test : 20-11-2017

Table 500-16 : Physical Requirements fo Coarse Aggregate for Bituminous Concrete

Property	Test	Result	Specification	Method of Test
Partical Shape	Flakiness Index	12.4	Combined Flakiness & Elongation Index for BC is Maximum 35%	IS:2386 Part I
	Elongation Index	11.8		
Strength	Aggregate Impact Value	22.1	Maximum 24%	IS:2386 Part IV
Specific gravity	Specific gravity	2.68	Maximum 2.7	IS:2386 Part III
Water Absorption	Water Absorption	0.21	Maximum 2%	IS:2386 Part III

Note:

The results pertain to the samples received and tested.

All information furnished by Customer/Representative

Any correction in the report will make this report invalid

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Samples will be disposed after 30 days from the date of issue of test certificate

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TEST REPORT OF AGGREGATE STRIPPING VALUE OF ROAD AGGRGATE (IS:6241)

Lab ID : CP-RW-2017-11-20-02 Date: 23-11-2017
Customer : Assistant Executive Engineer, Yelahanka New Town Sub Division,
BBMP, Bangalore
Address : Yelahanka New Town Sub Division, BBMP, Bangalore
Project Name : Improvements and Asphaltting of Roads and Drains at Thirumalanagara
ABCD Blocked in ward No.03
Agency : Technical Manager (west), KRIDL, BBMP, Bangalore.
Customer Reference : BBMP/EE(YNK.D)/W.O/116/2017-18
Source of Sample : Sample supplied by Agency
Sample Condition : Satisfactory
Date of Receipt : 20-11-2017
Sample ID No : 2017-11-20-02-01
Type of Mix : BC(Bitumenous Concrete)
Date of test : 20-11-2017

Type of Binder : 60/70
% of Binder Used : 5.0%
Weight of Aggregate : 200.0 gm
Weight of Binder : 10.0 gm
Temperature of water bath : 40°C

No of test	Retained Stripping Percentage	Stripping Percentage	Average Retained Stripping Percentage	Secified limits as per MORTH specification table 500-8
1	98.5	1.5	98.3	Minimum Retained Coating 95%
2	98.5	1.5		
3	98.0	2.0		

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TESTS RESULTS ON STABILITY OF MIX

Lab ID : CP-RW-2017-11-20-02 Date: 23-11-2017
Customer : Assistant Executive Engineer, Yelahanka New Town Sub Division, BBMP, Bangalore
Address : Yelahanka New Town Sub Division, BBMP, Bangalore
Project Name : Improvements and Asphaltting of Roads and Drains at Thirumalanagara ABCD Blocked in ward No.03
Agency : Technical Manager (west), KRIDL, BBMP, Bangalore.
Customer Reference : BBMP/EE(YNK.D)/W.O/116/2017-18
Source of Sample : Hot Mix Plant, Bangalore
Sample Condition : Satisfactory
Date of Receipt : 20-11-2017
Sample ID No : 2017-11-20-02-01
Type of Mix : BC (Bituminous Concrete)
Date of test : 20-11-2017

The results of the tests conducted on the Bituminous Concrete mix sample are as follow				
Sl.No	Particulars of observations	TEST 1	TEST 2	Secified limits as per MORTH specification table 500-11
1	Marshal Stability at 60°C, KN	11.14	11.13	10KN(min)
2	Marshal flow at 60°C, mm	3.52	3.51	2-4
3	Percent air Voids	4.82	4.83	3-5
4	Percent Voids in mineral Aggregate(VMA %)	14.28	14.26	13-15
5	Percent Voids filled with Bitumen(VFB %)	71.87	71.63	65-75
6	Density, g/cc	2.25	2.26	-

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TEST RESULTS OF GRADATION FOR DBM
(IS 2386:(Part 1) 1963 (RA2011))

Lab ID : CP-RW-2017-11-24-01 Date: 25-11-2017
Customer : Assistant Executive Engineer, Yelahanka New Town Sub Division, BBMP, Bangalore
Address : Yelahanka New Town Sub Division, BBMP, Bangalore
Project Name : Improvements and Asphaltting of Roads and Drains at Thirumalanagara ABCD Blocked in ward No.03
Agency : Technical Manager (west), KRIDL, BBMP, Bangalore.
Customer Reference : BBMP/EE(YNK.D)/W.O/116/2017-18
Source of Sample : Sample supplied by Agency
Date of Receipt : 24-11-2017
Sample ID No : 2017-11-24-01-01
Type of Mix : DBM (Dense Bituminous Macadam)
Date of test : 24-11-2017

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	A	500	500
2	Weight of the sample After extraction	B	480	479
3	Bitumen percentage	$\frac{A-B}{A} \times 100$	4.0	4.2
4	Average percentage	%	4.1	

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Lab ID : CP-RW-2017-11-24-01
Sample ID No : 2017-11-24-01-01

Date: 25-11-2017

AFTER EXTRACTION(Trail-1)

Weight of Sample(gm) : 480

IS Sieve Size(mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specification Limits as per MORTH specification Table 500-10(grading -2)
37.5	0	0	0	100.0	100
26.5	0	0	0.00	100.0	90-100
19	47	47	9.79	90.2	71-95
13.2	46.5	93.5	19.48	80.5	56-80
4.75	266.5	360	75.00	25.0	38-54
2.36	74.5	434.5	90.52	9.5	28-42
0.3	28	462.5	96.35	3.6	7-21
0.075	12.5	475	98.96	1.0	2-8

AFTER EXTRACTION(Trail-2)

Weight of Sample(gm) : 479

IS Sieve Size(mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specification Limits as per MORTH specification Table 500-10(grading -2)
37.5	0	0	0	100.0	100
26.5	2	2	0.42	99.6	90-100
19	65	67	13.99	86.0	71-95
13.2	112	179	37.37	62.6	56-80
4.75	77	256	53.44	46.6	38-54
2.36	56	312	65.14	34.9	28-42
0.3	68	380	79.33	20.7	7-21
0.075	69	449	93.74	6.3	2-8

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TEST RESULTS OF GRADATION FOR BC IS 2386 (Part 1) 1963 (RA 2011)

Lab ID : CP-RW-2017-11-25-01 Date: 27-11-2017
Customer : Assistant Executive Engineer, Yelahanka New Town Sub Division, BBMP, Bangalore
Address : Yelahanka New Town Sub Division, BBMP, Bangalore
Project Name : Improvements and Asphaltting of Roads and Drains at Thirumalanagara ABCD Blocked in ward No.03
Agency : Technical Manager (west), KRIDL, BBMP, Bangalore.
Customer Reference : BBMP/EE(YNK.D)/W.O/116/2017-18
Source of Sample : Sample supplied by Agency
Date of Receipt : 25-11-2017
Sample ID No : 2017-11-25-01/01
Type of Mix : BC (Bituminous Concrete)
Date of test : 25-11-2017

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	A	500	501
2	Weight of the sample After extraction	B	472	474
3	Bitumen percentage	$\frac{A-B}{A} \times 100$ A	5.60	5.39
4	Average percentage	%	5.5	

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Lab ID : CP-RW-2017-11-25-01

Date: 27-11-2017

Sample ID : 2017-11-25-01/01

AFTER EXTRACTION - Trail-1

Total Weight of the Sample(gm) : 472

IS Sieve Size (mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	4	4	0.8	99.2	90-100
9.5	62	66	14.0	86.0	70-88
4.75	112	178	37.7	62.3	53-71
2.36	88	266	56.4	43.6	42-58
1.18	29	295	62.5	37.5	34-48
0.6	11	306	64.8	35.2	26-38
0.3	46	352	74.6	25.4	18-28
0.15	45	397	84.1	15.9	12-20
0.075	55	452	95.8	4.2	4-10

AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 474

IS Sieve Size (mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	5	5	1.1	98.9	90-100
9.5	65	70	14.8	85.2	70-88
4.75	116	186	39.2	60.8	53-71
2.36	78	264	55.7	44.3	42-58
1.18	31	295	62.2	37.8	34-48
0.6	9	304	64.1	35.9	26-38
0.3	55	359	75.7	24.3	18-28
0.15	49	408	86.1	13.9	12-20
0.075	35	443	93.5	6.5	4-10

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